

Shelf Concentration and Processing (SCP) Card with IP Uplink User's Guide

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About This Guide

Document Purpose and Intended Audience

This guide describes how to configure, operate and troubleshoot the software component of Shelf Concentration and Processing (SCP) cards with an IP uplink. This guide reflects features in the SCP software version 4.2.

SCP cards with ATM uplinks are described in the *Shelf Concentration and Processing (SCP) Card with ATM Uplink User's Guide* (document number 8400-A2-GB20).

Use this guide to:

- Obtain a basic understanding of the SCP card's functionality
- Learn how to configure and monitor the SCP card
- Create and use VLANs

This guide is intended for administrators and operators responsible for network operations. A basic understanding of internetworking protocols and their features is assumed. Specifically, you should have familiarity with the following internetworking concepts:

- ATM
- TCP/IP
- IP routing (also referred to as IP forwarding)

It is assumed that you have already installed the Broadband Loop Carrier (BLC), the SCP card, and, if used, the Management Communications Processor (MCP) card.

NOTE:

You should use this document in conjunction with the appropriate DSL Card User's Guide. These documents provide information about specific DSL cards you have installed in the BLC. See [Product-Related Documents](#).

Document Summary

Section	Description
Chapter 1, <i>About the SCP Card</i>	Provides an overview of the features and functionality of the SCP card.
Chapter 2, <i>Accessing the Web Interface</i>	Explains how to assign an address with the command line interface so that the web interface can be used to configure the BLC.
Chapter 3, <i>Configuring Management</i>	Explains how to configure inband and out-of-band management.
Chapter 4, <i>Traffic Profiles and DSL Connections</i>	Explains how to define traffic profiles and how to create virtual circuits.
Chapter 5, <i>VLANs</i>	Explains how to create and use VLANs.
Chapter 6, <i>Multicasting</i>	Explains the use and configuration of multicasting and IGMP parameters.
Chapter 7, <i>Status</i>	Lists the various status screens available for the SCP card and its associated line cards.
Appendix A, <i>Port Mapping Table</i>	Shows the VPI/VCI default values assigned to circuits on the port card and the SCP card for user data (UBR) service.
Index	Lists key terms, acronyms, concepts, and sections in alphabetical order.

Product-Related Documents

Document Number	Document Title
8400-A2-GB20	<i>Shelf Concentration and Processing (SCP) Card with ATM Uplink User's Guide</i>
8400-A2-GT20	<i>GranDSLAM 3.x (SCP Card with ATM Uplink) Training Guide</i>
8400-A2-GT21	<i>GranDSLAM 4.x (SCP Card with IP Uplink) Training Guide</i>
8400-A2-GZ40	<i>Shelf Concentration and Processing (SCP) Card Installation Instructions</i>
8620-A2-GN20	<i>8620 Broadband Loop Carrier Installation Guide</i>
8700-A2-GB20	<i>Hotwire TDM SDSL Termination Units, Models 8777 and 8779, User's Guide</i>
8700-A2-GB25	<i>Hotwire TDM SDSL Termination Units, Models 8775 and 8785, User's Guide</i>
8799-A2-GB20	<i>Hotwire 8799 TDM SHDSL Line Card, with G.703 Interface, User's Guide</i>
8820-A2-GN20	<i>8820 Broadband Loop Carrier Installation Guide</i>
8900-A2-GB20	<i>ATM Line Cards, Models 8955, 8965, 8968, 8975, and 8985, User's Guide</i>
8922-A2-GN10	<i>8922 POTS Card Installation and User's Guide</i>
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About the SCP Card

1

Overview

The Shelf Concentration and Processing (SCP) card is a circuit card assembly that comprises a parent card with an ATM switch, a backplane interface, a processor, a cell multiplexer/demultiplexer, and an uplink childcard. The childcard determines the type of uplink supported by the SCP card.

When the SCP card is used in an 8620 or 8820 Broadband Loop Carrier (BLC), it aggregates DSL traffic from each of the DSL port cards in the chassis on the BLC's backplane bus and concentrates it onto an IP interface.

The SCP card supports the following line cards:

- 8922 POTS Line Card
- 8965 and 8968 ADSL2+ ATM Cards
- 8975 ReachDSL[®]+ ATM Card
- 8985 SHDSL ATM Card
- 8995 T1 IMA Card
- 8997 E1 IMA Card

With a Management Control Processor (MCP) card installed in the same chassis, the SCP card also supports Time Division Multiplexer (TDM) SDSL and SHDSL cards, Models 8775, 8777, 8779, and 8799.

Features

The SCP card provides these features:

- **Command Line Interface (CLI)**

The SCP card supports a router-like command line interface using Telnet or an attached console.

- **Web Interface**

The SCP card supports a web interface through Internet Explorer Version 6 or above.

- **Network Management Support via SNMP**

The SCP card supports primary network management support through an SNMP agent for configuring, monitoring, and sending traps.

- **Monitoring**

Monitoring screens let you monitor the activity of the SCP card.

- **Diagnostics**

Test and status screens let you diagnose uplink and card problems, and perform and review results of tests (including power-on self-test).

- **Alarm Indications**

Faceplate LEDs and web interface screens provide card status.

- **Non-Volatile Database Storage**

The SCP card has non-volatile database storage for configuration options and cross connections.

- **Control**

Firmware download, configuration upload and download.

- **Management Router**

Provides the capability of managing an external device connected to the SCP card's Ethernet port, in addition to inband management capabilities already present in the BLC.

- **VLANs**

The SCP card supports up to 4095 VLANs.

Accessing the Web Interface

2

Using the Default Management Address

The SCP card supports a router-like Command Line Interface (CLI). The CLI can be used to configure and maintain the system, but the web interface is recommended. You can access the web interface using the default management address or a network address you specify using the CLI (see [Setting the Management Address Using the CLI](#) on page 2-2).

► Procedure

To use the default management address:

1. Connect a PC to the LAN SCM port of the 8620 BLC or the LAN Slot A or B port (depending on which slot the SCP card is in) of the 8820 BLC using a crossover cable.
2. Access the web interface by typing the default address 10.10.10.10 into the Location field of your web browser. See [Using the Web Interface](#) on page 2-3.

Setting the Management Address Using the CLI

The management address can be set using the CLI.

► Procedure

To set the management address of the SCP card using the CLI:

1. Using the supplied cable and DB9 adapter, connect a PC with a terminal emulation program to the SERIAL SCM jack of your BLC. This gives you access to the CLI.
2. Log in to the SCP card using:

```
Login> SUPERUSER
Password> ASN#1500
```

The password appears on the screen as asterisks.

The startup procedure differs depending on the type of management used:

- Inband Management – Operates over the uplink.
- Out-of-Band Management – Operates over the LAN SCM port (8620) or LAN Slot A or B (8820)

Setting the Management Address for Inband and Out-of-Band Management

► Procedure

To start up the SCP using both inband and out-of-band management:

1. Specify the uplink port using the **configure uplink** command. The uplink must be either **eth1** or **eth2**. For example:

```
PDYN# configure uplink eth1
```

2. Assign an inband management IP address, subnet mask, and next-hop router using the **configure management** command. For example:

```
PDYN# configure management inband address 137.90.127.3
255.255.255.0
```

```
PDYN# configure management default-gateway 137.90.127.1
```

3. Assign an out-of-band management IP address and subnet mask using the **configure management** command. For example:

```
PDYN# configure management out-of-band address
137.90.126.1 255.255.255.0
```

Do not configure inband and out-of-band management on the same subnet.

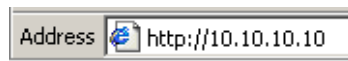
You can now access the web interface by typing into the Location field of your web browser the IP address assigned to the Ethernet port. See [Using the Web Interface](#) on page 2-3.

Using the Web Interface

To access the web interface:

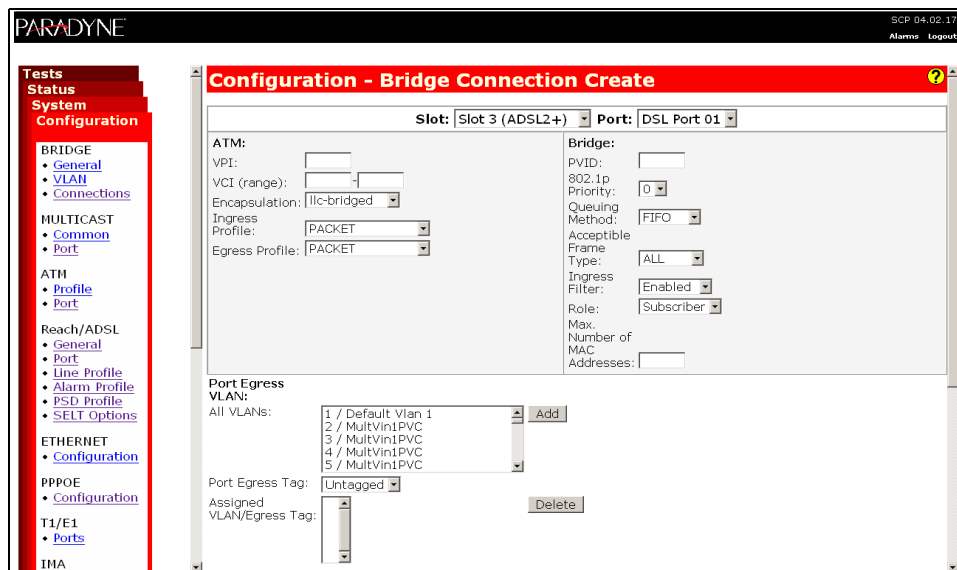
► Procedure

1. Start Internet Explorer (Version 6 or above).
2. Type `http://` and the IP address of the SCP card into the Address field of your browser window. The default address is 10.10.10.10:



Your PC must be in the same subnet as the SCP card, or have routed access to the subnet.

3. A login window appears. Enter the default User ID (SUPERUSER) and Password (ASN#1500), and click on OK. The web interface screen appears.
4. Click on the menu tab appropriate to what you would like to do:
 - Configuration – To configure the system and interfaces
 - Status – To display statistics, status, and contents of memory
 - System – To display system information, download firmware, back up configurations, and modify users
 - Tests – To start and stop tests



The web interface has an integral Help system. Click on the Help icon (?) on any screen to invoke a related Help.

Configuring Management

3

Overview

The SCP card supports management data over an uplink port (inband) and over the Ethernet port (out-of-band). Either management type can be configured using the web interface. To configure management addresses using the CLI, see [Setting the Management Address Using the CLI](#) in Chapter 2, *Accessing the Web Interface*.

As used in this guide:

- An Ethernet managed device is a device connected to the SCP card's Ethernet port.
- A managed endpoint is an endpoint attached to a line card in the BLC, which is managed via the SCP's inband management connection.

Management Guidelines

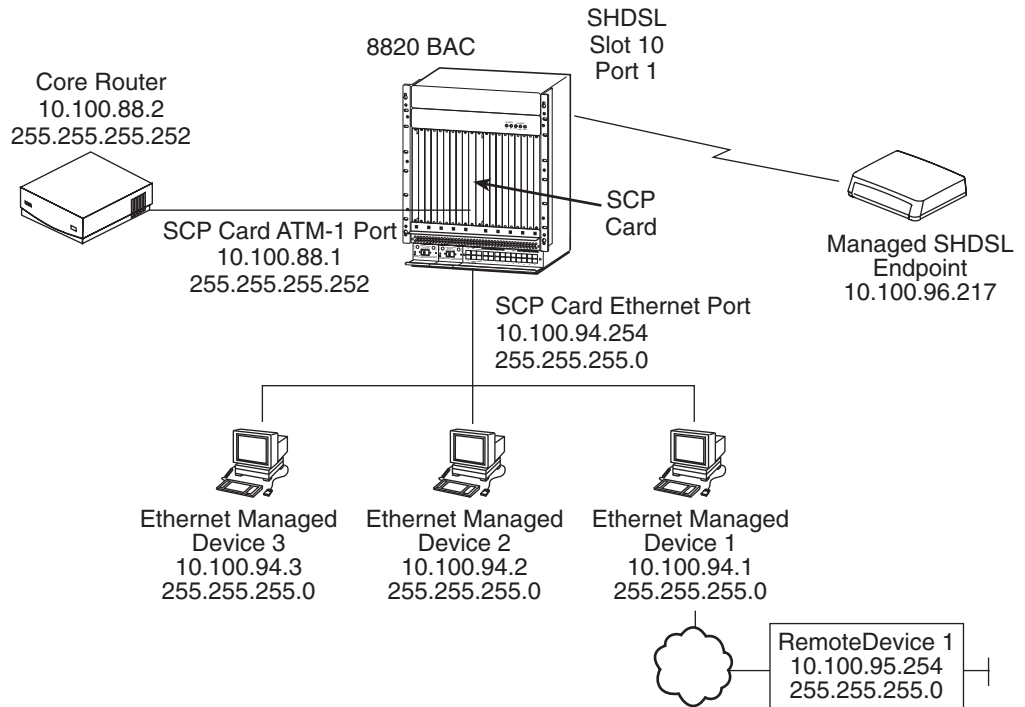
The following guidelines apply to management using an SCP card:

- If an MCP is present, the MCP's IP address can be on the same or a different subnet than the SCP card's inband management IP address.
- The SCP card's out of band management IP address must be on a different subnet than the SCP card's inband management IP address.
- Managed endpoint IP addresses can be on the same or a different subnet than the SCP card's inband management IP address.
- Managed endpoint IP addresses must be added to the ATM Management PVC Screen and ATM-1 or ATM-2 must be enabled in the IP Port screen (even if inband management is not being used) in order to be accessed.
- Ethernet managed devices that are on a different subnet than the SCP card's Ethernet subnet require a route to be added to the routing table. Ethernet managed devices that are on the same subnet as the SCP card's Ethernet subnet do not need a route to be added to the routing table.

Management Example

In the following example:

- The SCP card and Ethernet managed devices are on a different subnet than the SCP card's ATM-1 port.
- A remote network is accessible through Remote Device 1.
- Endpoints support network management.



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► Procedure

To configure management:

1. Select *Configuration > Management > IP Port*. The Configuration - IP Port screen appears. Select an ATM port from the drop-down list to configure inband management.

ATM management PVCs terminated on the SCP card are routed encapsulated (RFC 1483) PVCs.

2. Enter or select:

Field	Description
Configuration Mode	Select the configuration mode for the IP port from the drop-down list: MANUAL – Port parameters are configured by the operator. DHCP – Port parameters are configured using the Dynamic Host Configuration Protocol.
IP Address	Specify the IP address associated with the port. This is required if Configuration Mode is Manual.
Network Mask	Specify the subnet mask associated with the IP address. This is required if Configuration Mode is Manual. For ATM-1 and ATM-2, the value must be 255.255.255.255.
VLAN ID	Specify the VLAN ID of the port.
Port Status	Specify the administrative state of the port by selecting Enable or Disable from the drop-down list.
MAC Address	This display-only field shows the hardware address of the port.

Field	Description
DHCP Slot	Select the Slot. The Slot field is accessible if an ATM port is selected and Configuration Mode is DHCP
DHCP Port	Select the Port. The Port field is accessible if an ATM port is selected and Configuration Mode is DHCP.
DHCP VPI	Enter the ATM Virtual Path Identifier (0-15). The ATM VPI and VCI fields are accessible if an ATM port is selected and Configuration Mode is DHCP.
DHCP VCI	Enter the ATM Virtual Channel Identifier (32-1023). The ATM VPI and VCI fields are accessible if an ATM port is selected and Configuration Mode is DHCP.

- Click on Apply.
- Select Enet_mgmt from the Port drop-down list. Enter the IP Address and Network Mask for out-of-band management.

PARADYNE SCP 04.02.17
Alarms Logout

Configuration - IP Port

Port: Enet_mgmt [Set Default Gateway](#)

Apply

Configuration Mode: Manual

IP Address: 10.100.1.5

Network Mask: 255.255.255.0

VLAN ID:

Port Status: Enable

MAC Address: 00:e0:39:c4:75:df

Left sidebar menu:

- Configuration
 - PPPOE
 - Configuration
 - T1/E1
 - Ports
 - IHA
 - Groups
 - POTS
 - System
 - Port
 - IAD
 - HGCP
 - MANAGEMENT
 - Users
 - ATM Mgmt
 - PVC
 - IP Port
 - IP Security
 - IP Routing
 - SNMP
 - SYSTEM
 - Clocking
 - User
 - Interface
 - Date and Time
 - Syslog

- Click on Apply.
- To create a route to a remote device, select *Configuration > Management > ATM Mgmt PVC*. The Configuration - ATM Management PVC screen appears.
- Click on Create New Entry. The Configuration - ATM Management PVC Create screen appears.

8. Enter or select:

Field	Description
Slot	Select a Slot from the drop-down list.
Port	Select a Port from the drop-down list.
IP Port	Select an IP Port from the drop-down list: ATM-1 - First IP-over-ATM interface ATM-2 - Second IP-over-ATM interface
Next Hop IP Address	Enter the next-hop IP address associated with the endpoint. It must be on a different subnet than the ATM port.
ATM VPI	Enter the ATM Virtual Path Identifier (0–15) associated with the virtual circuit for the entry.
ATM VCI	Enter the ATM Virtual Channel Identifier (32–1023) associated with the virtual circuit for the entry.

9. Click on Apply. The new PVC is listed under PVC Entries on the Configuration - ATM Management PVC screen.
10. Use the Configuration - IP Route Create screen to create a route to a remote device. Select *Configuration > Management > IP Routing*. The Configuration - IP Routing screen appears.

11. Click on Create New IP Route. The Configuration - IP Route Create screen appears.

The screenshot shows the PARADYNE web interface. On the left is a navigation menu with categories: Configuration (highlighted with a red box), T1/E1, IMA, POTS, MANAGEMENT, and SYSTEM. Under Configuration, there are links for PPPOE, Configuration, Ports, and Groups. The main content area has a red header bar that says "Configuration - IP Route Create" with a help icon. Below the header are three input fields: "Destination", "Subnet Mask", and "Gateway". An "Apply" button is located below the "Gateway" field. The top right corner of the interface shows the date "SEP 04/02/17" and links for "Alarms" and "Logout".

12. Enter the Destination, Subnet Mask, and Gateway.
13. Click on Apply.

Traffic Profiles and DSL Connections

4

Setting Up Default Connections

The SCP card is designed to minimize the work of configuration by providing useful defaults.

► Procedure

To set up the SCP card with default connections:

1. Determine the expected services to be deployed from the BLC and identify the attributes of these service offerings (such as ATM Class of Service, sustained peak cell rates, and subscriber oversubscription targets).
2. Using the information gathered in [Step 1](#), determine the traffic management strategy for handling congestion in the BLC and the network (such as policing).
3. Select the profiles to match the predominant service profile using the Configuration - Profile Traffic Descriptor screen. See [Setting Up Traffic Profiles](#) on page 4-2.
4. Determine the VPI/VCI numbering strategy. It is recommended for ease of administration and maintenance that default VCs with different traffic profiles be configured on separate VPIs.
5. Based on the intended services, determine what type of port cards will be installed in the chassis and how many default connections they require:
 - Packet port cards and cell port cards have one default data VC per port.
 - TDM port cards (such as TDM SDSL) do not use the SCP card and require no default VCs.
6. Use the Configuration - DSL Connection screen to associate DSL ports with ATM connections and VLANs. See [Configuration - Bridge Connection](#) on page 4-5.

Setting Up Traffic Profiles

Traffic Profiles are required for all connections to allow the SCP card to perform its traffic management functions such as Connection Admission Control (CAC). You can define up to 250 traffic profiles for the SCP card using the Configuration - Profile Traffic Descriptor screen. Traffic profiles specify the traffic class of the connection and the expected sustained and peak cell rates (SCR and PCR), as well as the Maximum Burst Size (MBS).

It is recommended for ease of administration that the same traffic profile be used on both the SCP card and the ATM line cards. The same set of traffic profiles should be shared among all ATM line cards in the chassis, and the whole DSL network, if possible.

Creating Traffic Profiles

► Procedure

To create a traffic profile:

1. On the Configuration menu tab, select *ATM > Profile*. The Configuration - Profile Traffic Descriptor screen appears.

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Alarm Logout

Configuration - Profile Traffic Descriptor

Profile Name	CoS	PCR	SCR	CDVT	MBS	MCR	PD	Tag
CBR1000noPolice	CBR	1000	N/A	0	N/A	N/A	Yes	No
PACKET	UBR	N/A	N/A	N/A	N/A	N/A	Yes	No
POTS	rt-VBR	5400	5400	12	26	N/A	No	Yes
POTS-SIG	rt-VBR	2000	1000	12	26	N/A	No	Yes
VOICE	rt-VBR	5424	188	N/A	16	N/A	No	Yes
nrt_VBR 16K	nrt-VBR	16000	16000	198	1000	N/A	Yes	Yes
rt_VBR 3000	rt-VBR	3000	3000	198	1000	N/A	Yes	Yes

Modify/View Selected Delete Selected Create New Profile

- Click on Create New Profile. The first Configuration - Profile Traffic Descriptor Create screen appears.

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SCP 04.02.17
Alarm Logout

Configuration - Profile Traffic Descriptor Create

Select CoS: UBR
 Select
 UBR
 CBR
 nrt-VBR
 rt-VBR

- Select a Class of Service (CoS) from the drop-down list:

- UBR (Unspecified Bit Rate)
- CBR (Constant Bit Rate)
- nrt-VBR (Non-Real-Time Variable Bit Rate)
- rt-VBR (Real-Time Variable Bit Rate)

Click on Select. The Configuration - Profile Traffic Descriptor Create - CoS screen appears, where CoS is the class of service you selected.

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SCP 04.02.17
Alarm Logout

Configuration - Profile Traffic Descriptor Create - rt-VBR

CoS: rt-VBR

Profile Name:

PCR: 0 - 351566

SCR: 0 - 351566

CDVT: 0 - 100000

MBS: 0 - 351566

Tagging: No

Traffic Policing: No

Packet Discard: No

Shaping: No

Apply

4. What fields are displayed depends on the Class of Service. Enter or select:

Field	Description
Profile Name	Enter a name for this profile.
PCR	Enter a Peak Cell rate from 0 to 351566.
SCR	Enter a Sustainable Cell Rate from 0 to 351566.
CDVT	Enter a Cell Delay Variation Tolerance from 0 to 100000.
MBS	Enter a Maximum Burst Size from 0 to 351566.
Tagging	Select Yes or No from the drop-down list to determine if tagging is allowed for this profile.
Traffic Policing	Select Yes or No from the drop-down list to determine if traffic policing is allowed for this profile.
Packet Discard	Select Yes or No from the drop-down list to determine if partial packet discards are allowed for this profile.
Shaping	Select Yes or No from the drop-down list to determine if shaping is allowed for this profile.

5. Click on Apply.

Modifying a Traffic Profile

► Procedure

To modify a traffic profile:

1. On the Configuration - Profile Traffic Descriptor screen, click in the selection box next to the profile you want to modify.
2. Click on Modify Selected. The Configuration - Profile Traffic Descriptor Modify screen appears.
3. Modify the fields as required.
4. Click on Apply.

Configuration - Bridge Connection

Use the Configuration - Bridge Connection Create screen to associate DSL ports with ATM connections and VLANs.

To define bridge connections:

1. From the main menu, select *Configuration > Bridge > Connections*. The Configuration - Connections - Menu screen appears.
2. Click on Create Connection. The Configuration - Bridge Connection Create screen appears.

3. Select a Slot and Port from the drop-down lists.
4. ATM fields are omitted for cards to which they are not applicable. If present, enter or select the following ATM parameters:

Field	Description
VPI	Specify the path (0–15) for this connection.
VCI	Specify the channel (32–255) for this connection.
Encapsulation	Select an ATM encapsulation protocol from the drop-down list: llc-bridged – Logical Link Control bridged. The protocol of a packet is identified in an LLC header. llc-pppoa – Logical Link Control PPP (Point to Point Protocol) Over ATM (Asynchronous Transfer Mode). The protocol of a packet is identified in an LLC header. vcm-bridged – Virtual Channel Multiplexing bridged. A separate VC is used for each higher level protocol. vcm-pppoa – Virtual Channel Multiplexing PPP Over ATM. A separate VC is used for each higher level protocol.

Field	Description
Ingress Profile	Select the ATM profile for inbound traffic from the drop-down list.
Egress Profile	Select the ATM profile for outbound traffic from the drop-down list

5. Enter or select the following Bridge parameters:

Field	Description
PVID	Specify the Port VLAN ID to be applied to untagged frames received from the CPE on the DSL port over this connection. Any VLAN ID (1–4094) of a previously configured user VLAN may be used.
802.1p Priority	Specify a non-zero value (1–7) to cause frames to be tagged according to this 802.1p priority. 1 is the lowest priority and 7 the highest.
Queueing Method	Specify whether frames received in a downstream direction are queued according to their 802.1p priority, or handled on a first-in, first-out (FIFO) basis. If the queueing method is set to 802.1p, the priority is assessed on a per PVC basis and not between PVCs.
Acceptable Frame Type	Specify what type of frames will be accepted from the LAN on this port. Unacceptable frames will be dropped. Tagged – Only VLAN tagged frames will be accepted All – Both VLAN tagged and untagged frames will be accepted
Ingress Filter Enabled	Specify if frames from the LAN with VLAN tags that are not members of this port should be filtered out and discarded. Checked (enabled) - Frames that are not members of a VLAN on this port will be dropped. Unchecked (disabled) - All frames are accepted.
Role	Specify the role of the connection: Subscriber Network
Maximum Number of MAC Addresses	Specify the maximum number of MAC addresses permitted to access the selected port.

6. Enter or select the following Egress VLAN parameters:

Field	Description
VLAN List	Select a VLAN or multiple VLANs. To select a VLAN while retaining previous VLAN selections, press the CTRL key as you click on a VLAN. To select a range of VLANs, select one VLAN, position the cursor some number of VLANs above or below your selection, then click on a VLAN while holding down the Shift key. Click on Select All to select all listed VLANs, and click on Clear All to remove any selections you have made.
Egress Tag	Select the egress tag for the selected VLAN or VLANs: Tagged Untagged

7. Click on Add to add the selected VLAN or VLANs to the Assigned VLAN/Egress Tag list box.
8. Enter or select the following IP Filters parameters:

Field	Description
Address	Specify an IP address to be filtered on the selected ports.
Mask	Specify the subnet mask of the IP address.

9. Click on Add to add the Address and Mask to the Current Filters list box.
10. Click on Create New Connection.

VLAN Basics

VLANs (Virtual Local Area Networks) allow multiple logical interfaces on a single physical interface. The devices on a VLAN communicate as if they were on the same physical LAN. This technique segregates the traffic between multiple users. So even though multiple users are on a common interface, they are not aware of each other, and each user appears to own the entire interface. Devices within each VLAN can only communicate with member devices in the same VLAN.

VLANs can also be used to segregate the types of traffic. For example, a network might have a VLAN for data, another VLAN for voice traffic, and another VLAN for video.

VLANs benefit the network provider in that VLANs help control traffic. With traditional local area networks, congestion can be caused by broadcast traffic that is directed to all devices. VLANs increase the efficiency of a network because each VLAN can be set up to contain only those devices that must communicate with each other. Therefore, broadcasts are sent only to devices that need the broadcast information. This is referred to as a common broadcast domain.

VLAN Tagging

VLANs are based on the IEEE 802.3Q standard. VLAN tagging is a process that inserts a VLAN tag into the Ethernet frame. The tag contains the identification number of a specific VLAN, which is called the VLAN ID, and a priority field.

Not all ports in a VLAN must be tagged. Ports can be untagged members of a VLAN. As traffic for a port is forwarded out of the switch, the unit determines if the port should use tagged or untagged packet formats for that VLAN. The switch adds or deletes tags, as required, for each port that is configured for the VLAN.

Configuring VLANs

VLAN Configuration is a two-part process. The first step is to create the VLAN and the second step is to define how each port should handle VLANs.

Creating a VLAN

Use the Configuration - VLAN Create screen to create a new VLAN.

To create a new VLAN:

1. Select Configuration > Bridge > VLAN. The Configure - VLAN screen appears, displaying any VLANs already configured.

Select	VLAN	Name	Number of Tagged Members	Number of Untagged Members	Secure Mode	Proxy ARP	Next Hop Router
☐	1	Default Vlan 1	0	4	Enabled	Enabled	0.0.0.0
☐	2	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	3	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	4	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	5	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	6	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	7	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	8	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	9	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	10	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	11	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	12	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	13	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	14	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	15	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0
☐	16	MultVin1PVC	1	1	Disabled	Disabled	0.0.0.0

2. To create a VLAN, click on Add New VLAN. The Configuration - VLAN - Create screen appears.

Configuration - VLANs - VLAN Create

VLAN ID: (1-4094)

Name:

Secure Mode: Enabled

Proxy ARP: Disabled

Next Hop Router (NHR): Use Default (0.0.0.0)

Secure Uplink Selection: Slot A (SCP) Eth 2

Option 82: Disabled

Create and Display VLAN Port Configuration | Cancel | Reset

3. Enter or select the following parameters.

Field	Description
VLAN ID	Specify a unique VLAN ID for the VLAN. It may be any unused ID from 2 to 4094. For example: 22
Name	Specify a unique name for the VLAN up to 32 characters. This can be used to refer to the VLAN by name instead of the VLAN ID if desired. For example: ISP1
Secure Mode	Specify if Secure Mode is enabled or disabled for this VLAN: Enabled – All traffic from the DSL ports on this VLAN is sent only to the designated uplink port. Clients on DSL ports cannot connect directly to each other or see any data from any other user within the unit on this VLAN. Disabled – The unit behaves like a basic switch on this VLAN. Broadcasts from a DSL port are visible to all other DSL ports and clients on DSL ports may make direct connections to each other.
Proxy ARP	Specify whether Proxy ARP is enabled.
Next Hop Router	Specify the default next-hop router.
Secure Uplink Selection	Select the secure uplink slot and group from the drop-down list.

Field	Description
DHCP Option 82	Specify whether DHCP Option 82 is enabled or disabled for this VLAN: Enabled – The BLC adds DHCP Option 82 information to DHCP requests entering the BLC from subscriber links and bound for the uplink, and strips the DHCP Option 82 information from DHCP responses entering the BLC from the uplink and bound for subscriber links. The Circuit Identifier field of the DHCP Relay Agent Information Option circuit identifier suboption includes: ■ The system name configured for the chassis ■ The BLC slot and subscriber port ■ The DSL port VPI and VCI ■ The VLAN to which this PVC is assigned ■ The decimal MIB II ifIndex value for the DSL port If supported by the endpoint, the Circuit Identifier field of the DHCP Relay Agent Information Option agent remote identifier suboption includes: ■ The serial number of the endpoint ■ The endpoint vendor identifier Do not enable Option 82 unless you are certain your DHCP server supports Option 82. Disabled – The BLC does not process DHCP Option 82 information.

4. Click on Create and Display VLAN Port Configuration.

Ports are associated with VLANs using the Configuration - Bridge Connection screens. See [Configuration - Bridge Connection](#) in Chapter 4, *Traffic Profiles and DSL Connections*.

Multicasting and Video Applications

The SCP card supports up to 255 multicast streams. Each multicast stream may represent a separate video content channel coming into the BLC, having been requested by at least one video customer. All customers can have access to the channels by joining and leaving the multicast groups.

In the downstream direction, a DSL port PVC is mapped to a multicast stream, rather than to a particular set-top box or MAC address. Up to three simultaneous multicast streams can be deployed on a DSL port used to provide a video service.

On a DSL port that delivers video service, a PVC must be configured to act as the IGMP control upstream for all the multicast channels. For delivery of n multicast streams, $n+1$ PVCs must be configured over the DSL interface. For example, if the service is guaranteed to support two set top boxes (two simultaneous video streams), two multicast PVCs and one unicast PVC must be configured on the DSL link.

An ATM profile may be applied to the multicast PVCs and it is recommended that nrt-VBR be used as the ATM class of service. A video-specific ATM profile can be defined for this purpose and applied to each multicast PVC as it is provisioned. This allows prioritization of the video traffic above the Internet traffic, assuming that Internet traffic uses an ATM UBR profile. The PVC used for upstream control information will typically be UBR.

The endpoint must be configured for RFC 1483/2864 Bridged Encapsulation on all PVCs, even those over which it is routing. A bridge must be configured on the endpoint for all multicast traffic, including:

- The downstream multicast PVCs
- The control PVC
- The Ethernet ports to which the set-top boxes are attached

It is recommended that Internet traffic be routed or handled by a separate bridge than the multicast traffic so that it can have lower priority. However, if the internet traffic is configured in the BLC to share the multicast control PVC, it must share the same bridge as the multicast traffic. If the endpoint provides an IAD (Integrated Access Device) function or if an MTA (Media Terminal Adapter) is connected to an Ethernet port on the endpoint, the endpoint should be configured such that voice traffic is carried on a dedicated PVC of highest priority.

Configuration - Multicast Common Parameters

Use the Configuration - Multicast Common Parameters to establish the general rules for IGMP snooping and proxy.

► Procedure

To set multicast parameters:

1. Enter or select the following fields:

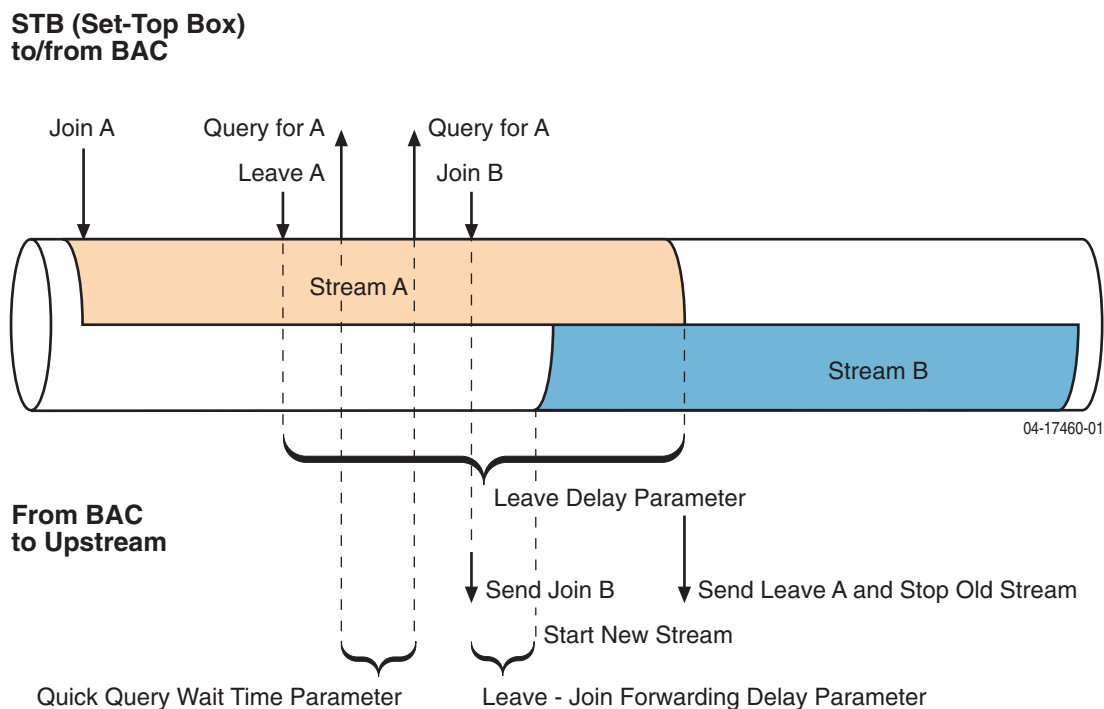
Field	Description
Snooping	Specify the state of IGMP snooping: Disabled - The unit will not recognize multicast packets. Enabled – IGMP Snooping is enabled. The unit will process multicast packets and snoop IGMP packets to learn multicast group address and port associations.
IGMP Proxy	Specify the state of IGMP Proxy: Disabled - The unit will relay all IGMP messages and not perform any proxy functions. Enabled – The unit will act as an IGMP querier if needed. In addition the proxy function will perform quick query functions that allows a smooth changing of data streams. The IGMP Snooping function must also be enabled for this function to be enabled.

2. Click on Apply.

Configuration - Multicast Port Parameters

Use the Configuration - Multicast Port Parameters screen to set port-specific parameters for multicasting.

The following illustration shows the relationship of IGMP snooping parameters.



► Procedure

To set multicast port parameters:

1. Select a Slot from the drop-down list.
2. Select a Port from the drop-down list.
3. Enter or select the following fields:

Field	Description
Quick Query Count	Specify the number of Quick Queries to a port that will be generated in response to an IGMP Leave Message on that port. If no responses are received after this number of messages then it can be assumed that no subscribers on that port want to be in the multicast group. This parameter is also referred to as the robustness value. The default is 2. The valid range is 1 to 10.

Field	Description
Leave Delay	Specify the amount of time, in tenths of a second, that the multicast stream will continue on a port after the receipt of a leave message. The default value is 3 (0.3 seconds). The valid range is 0 to 255 (0 to 25.5 seconds).
Leave-Join Delay	Specify the amount of time, in tenths of a second, that the start of a new multicast stream on a port is delayed following the receipt of a leave message. The default value is 3 (0.3 seconds). The valid range is 0 to 255 (0 to 25.5 seconds).
Multicast Group 1 VPI/VC1	Specify the connection for the first multicast group.
Multicast Group 2 VPI/VC1	Specify the connection for the second multicast group.
Multicast Group 3 VPI/VC1	Specify the connection for the third multicast group.
ATM Profile	Select a profile to be applied to this port from the drop-down list.
ATM Encapsulation	Select the encapsulation protocol to be used: llc-bridged – Logical Link Control bridged. The protocol of a packet is identified in an LLC header. vcm-bridged – Virtual Channel Multiplexing bridged. A separate VC is used for each higher level protocol.

4. Click on Apply.

Status

7

Overview

The SCP card's web interface provides many status screens that show the state, performance, and statistics for the uplink and DSL line cards.

- [Status - ATM Statistics](#) on page 7-2
- [Status - DSL Performance](#) on page 7-3
- [Status - DSL Statistics](#) on page 7-4
- [Status - Ethernet Performance](#) on page 7-6
- [Status - IMA Performance](#) on page 7-9
- [Status - IMA Statistics](#) on page 7-10
- [Status - Port Rates](#) on page 7-12
- [Status - SHDSL Performance](#) on page 7-12
- [Status - SHDSL Statistics](#) on page 7-13
- [Status - Syslog](#) on page 7-14
- [Status - System Alarms](#) on page 7-15
- [Status - Unknown Cell Log](#) on page 7-16

Status - ATM Statistics

Use the ATM Statistics screen to view the number of uncorrectable HEC errors.

To display ATM statistics:

1. Select *Status > Statistics > ATM*. The Status - ATM Statistics screen appears.
2. Select a port from the drop-down list.
3. Select a slot from the drop-down list.
4. Select an interval type:
 - 15 Minutes – For the last 15-minute interval
 - 30 Minutes – For the last two 15-minute intervals
 - 1 Hour – For the last four 15-minute intervals
 - 96 Intervals – For the last day's 15-minute intervals
 - 1 Day Total – For the total of the last 96 15-minute intervals
5. Click on Refresh to display the latest count.

Status - DSL Performance

Use the DSL Performance screen to obtain performance statistics for the near-end modem (ATU-C), far-end modem (ATU-R), ATM layer, and ATM PVC.

Select *Status > Performance > DSL*. The Status - DSL Performance screen appears.

To display statistics, select a port from the drop-down list. The following information is displayed:

Field	Description
<i>DSL Layer Performance – Near End</i>	
Current SNR Margin	The noise margin as seen by this ATU with respect to its received signal in tenths of a decibel.
Current Loop Attenuation	The measured difference in the total power transmitted by the peer ATU and the total power received by this ATU.
Current Output Power	The measured total output power transmitted by this ATU.
Loss of Framing (LOF)	There has been a failure due to an invalid frame.
Loss of Signal (LOS)	The ATU-C detected a loss of signal.
Loss of Signal Quality	There has been a failure due to loss of signal quality. Loss of signal quality is declared when the Noise Margin falls below the Minimum Noise Margin, or the bit-error-rate exceeds 10^{-7} .
Loss of Link	The ATU-C was unable to link with the ATU-R.
Data Init Failure	The ATU-C failed during initialization due to bit errors corrupting startup exchange data.
Configuration Init Failure	There has been a Configuration Initialization failure.
Protocol Init Failure	The ATU-C failed during initialization due to an incompatible protocol being used by the peer ATU-R.
No Peer ATU Present	The ATU-C failed during initialization because no activation sequence was detected from the peer ATU-R.
Current Tx Rate	The rate of transmission.
<i>DSL Layer Performance – Far End</i>	
Current SNR Margin	The noise margin as seen by this ATU with respect to its received signal in tenths of a decibel.
Current Loop Attenuation	The measured difference in the total power transmitted by the peer ATU and the total power received by this ATU.
Current Output Power	The measured total output power transmitted by this ATU.
Loss of Framing (LOF)	There has been a failure due to an invalid frame.

Field	Description
Loss of Signal (LOS)	There has been a failure due to loss of signal.
Loss of Signal Quality	There has been a failure due to loss of signal quality. Loss of signal quality is declared when the Noise Margin falls below the Minimum Noise Margin, or the bit-error-rate exceeds 10^{-7} .
Current Tx Rate	The rate of transmission.
<i>ATM Layer Performance</i>	
Loss of Cell Delineation	The number of Loss of Cell Delineation events since the last reset. An LCD state is declared after an OCD condition persists for 4 milliseconds.
Cells Sent	The number of cells sent since the last reset.
Cells Received	The number of cells received since the last reset.
Received Cells Dropped	The number of received cells dropped since the last reset.
OCD Events	The number of Out of Cell Delineation events since the last reset. An OCD event is declared when seven consecutive ATM cells have Header Error Control (HEC) violations.
<i>ATM PVC Performance</i>	
Cells Sent	The number of cells sent on this PVC since the last reset.
Cells Received	The number of cells received on this PVC since the last reset.

Click on Refresh to display the latest information.

Status - DSL Statistics

Use the DSL Statistics screen to obtain error statistics by DSL port.

To display statistics:

1. Select *Status > Statistics > DSL*. The Status - DSL Statistics screen appears.
2. Select a Slot from the drop-down list.
3. Select a Port from the drop-down list.
4. Select an interval type:
 - 15 Minutes – For the last 15-minute interval
 - 30 Minutes – For the last two 15-minute intervals
 - 1 Hour – For the last four 15-minute intervals
 - 96 Intervals – For the last day's 15-minute intervals
 - 1 Day Total – For the total of the last 96 15-minute intervals

The following information is displayed:

Field	Description
Near End	
LOFS	The number of Loss of Framing failures.
LOSS	The number of Loss of Signal failures.
LOLS	The number of Loss of Link failures.
ES	The number of Errored Seconds. The errored second parameter is a count of one-second intervals containing one or more CRC anomalies, or one or more LOS or Severely Errored Frame (SEF) defects.
SES	The number of Severely Errored Seconds.
UAS	The number of Unavailable Seconds.
Far End	
LOFS	The number of Loss of Framing failures.
LOSS	The number of Loss of Framing failures.
Loss of Power	The number of Loss of Power failures.
ES	The number of Errored Seconds. The errored second parameter is a count of one-second intervals containing one or more CRC anomalies, or one or more LOS or Severely Errored Frame (SEF) defects.
SES	The number of Severely Errored Seconds. An SES is a one-second interval during which either 18 or more errored frames were received, or at least one loss of signal defect, severely errored frame defect, or loss of power defect occurred.
UAS	The number of Unavailable Seconds. The UAS counter starts after 10 consecutive severely errored seconds.

5. Click on Refresh to display the latest information.

Status - Ethernet Performance

Use the Status - Ethernet Performance screen to display the status, error counts, and throughput of Ethernet ports.

To display Ethernet performance information, select *Status > Performance > Ethernet*. The Status - Ethernet Performance screen appears. Select a Port from the drop-down list and click on Select.

Field	Description
<i>Ethernet Layer Status</i>	
Link Status	Shows the status of the link: dormant – The link has no device attached down – The link is administratively down or has a fault that prevents it from coming up unknown – The link's status cannot be determined up – The link is enabled and ready to send packets
Link Up Time	Shows the number of days, hours, minutes, and seconds the link has been active.
Rate (Mbps)	Shows the data rate of the link in Mbps.
Duplex	Shows the duplex mode: Full – The link is full-duplex Half – The link is half-duplex
Connector Type	Shows the physical interface used: RJ45 – The interface is the 8-wire modular jack Fiber – The interface is the SFP optic fiber socket
<i>Ethernet Layer Status</i>	
Link Status	Shows the status of the link: dormant – The link has no device attached down – The link is down unknown – The link's status cannot be determined up – The link is enabled and ready to send packets
Link Up Time	Shows the number of days, hours, minutes, and seconds the link has been active.
Rate (Mbps)	Shows the data rate of the link in Mbps.
Duplex	Shows the duplex mode: Full – The link is full-duplex Half – The link is half-duplex

Field	Description
Connector Type	Shows the physical interface used: RJ45 – The interface is the 8-wire modular jack Fiber – The interface is the SFP optic fiber socket
<i>Ethernet Layer Statistics</i>	
Total Bytes Received	Shows the number of bytes received.
Total Bytes Transmitted	Shows the number of bytes transmitted.
Total Frames Received	Shows the number of frames received.
Total Frames Transmitted	Shows the number of frames transmitted.
Unicast Packets Received	Shows the number of unicast packets received.
Unicast Packets Transmitted	Shows the number of unicast messages transmitted.
Broadcast Packets Received	Shows the number of broadcast packets received.
Broadcast Packets Transmitted	Shows the number of broadcast messages transmitted.
Multicast Packets Received	Shows the number of multicast packets received.
Multicast Packets Transmitted	Shows the number of multicast messages transmitted.
Total Frames Discarded	Shows the number of frames discarded for any reason.
Errored Frames	Shows the number of frames detected to be in error.
Paused Frames Received	Shows the number of pause (flow control) frames received.
Paused Frames Transmitted	Shows the number of pause (flow control) frames transmitted.
Excessive Collisions	Shows the number of frames not transmitted due to excessive (15) collisions.
Deferred Transmissions	Shows the number of frames successfully transmitted after transmission has been deferred at least once.
Carrier Sense Errors	Shows the number of times the carrier sense signal was lost during transmission.
Alignment Errors	Shows the number of frames received with an alignment error.
FCS Errors	Shows the number of frames with Frame Check Sequence (FCS) errors.

Field	Description
Single Collision Frames	Shows the number of frames transmitted after a single collision.
Multiple Collision Frames	Shows the number of frames transmitted after multiple collisions.
SQE Test Errors	Shows the number of Signal Quality Error (SQE) test errors received.
Late Collisions	Shows the number of collisions detected after the normal window.
Internal MAC Receive Errors	Shows the number of frames dropped on reception because of Media Access Control (MAC) errors.
Internal MAC Transmit Errors	Shows the number of frames dropped on transmission due to MAC errors.
Frame Too Longs	Shows the number of frames dropped because they exceeded the maximum Ethernet frame size.
Symbol Errors	Shows the number of symbols received that could not be decoded.

Click on Refresh to update the statistics.

Status - IMA Performance

Use the Status - IMA Performance screen to view failure status, cell rate, and cell counts for an IMA group.

To view IMA performance:

1. Select a Slot from the drop-down list.
2. Select an IMA Group from the drop-down list.
3. Scroll through the frame, or click on Links, ATM Layer, or PVCs to jump to an area of particular interest.
4. The following information is displayed:

Field	Description
<i>IMA Group n:</i>	
Fail Status	The current group failure status: No Failures, Start-up, Invalid M Value, Insufficient Links, Blocked, Other, or Invalid IMA Version.
NE State	The group state: Operational, Start Up, Start Up ACK, Not Configured, Config Abort Incompatible Symmetry, Config Abort Unsupported IMA Version, Config Abort Other, Insufficient Links, or Blocked.
Tx Available Cell Rate	The current cell rate (in cells per second) provided by this IMA group in the transmit direction, considering all the transmit links in the Active state.
Rx Available Cell Rate	The current cell rate (in cells per second) provided by this IMA group in the receive direction, considering all the receive links in the Active state.
<i>IMA Links (Link n):</i>	
Near End Tx State	The current state of the near end transmit link.
Near End Rx State	The current state of the near end receive link.
Far End Tx State	The current state of the far end transmit link.
Far End Rx State	The current state of the far end receive link.
Near End Rx Failure Status	The current link failure status of the near end receive link.
Far End Rx Failure Status	The current link failure status of the far end receive link.
<i>ATM Layer Performance:</i>	
Loss of Cell Delineation	The number of Loss of Cell Delineation events since the last reset. An LCD state is declared after an OCD condition persists for 4 milliseconds.
Cells Sent	The number of cells sent since the last reset.
Cells Received	The number of cells received since the last reset.

Field	Description
Received Cells Dropped	The number of received cells dropped since the last reset.
OCD Events	The number of Out of Cell Delineation events since the last reset. An OCD event is declared when seven consecutive ATM cells have Header Error Control (HEC) violations.
CBR Bandwidth Utilization	The percentage of available bandwidth used by CBR traffic.
VBR-rt Bandwidth Utilization	The percentage of available bandwidth used by VBR-rt traffic.
VBR-nrt Bandwidth Utilization	The percentage of available bandwidth used by VBR-nrt traffic.
UBR Bandwidth Utilization	The percentage of available bandwidth used by UBR traffic.
<i>ATM PVC Performance (VPI, VCI):</i>	
Cells Sent	The number of cells sent on this PVC since the last reset.
Cells Received	The number of cells received on this PVC since the last reset.

5. Click on Refresh to see the latest information.

Status - IMA Statistics

Use the Status - IMA Statistics screen to view IMA statistics by slot, IMA group, and link.

To view IMA statistics:

1. Select a Slot from the drop-down list.
2. Select an IMA Group from the drop-down list.
3. Select a Link from the drop-down list.
4. Select an interval type:
 - 15 Minutes - For the last 15-minute interval
 - 30 Minutes - For the last two 15-minute intervals
 - 1 Hour - For the last four 15-minute intervals
 - 96 Intervals - For the last day's 15-minute intervals
 - 1 Day Total - For the total of the last 96 15-minute intervals
5. The following current and interval values are displayed:

Field	Description
<i>Group:</i>	
UAS	UnAvailable Seconds – Number of seconds during which the IMA group is down (UAS).
NE Fail Cnt	NE Failure Count – The number of times a near-end group failure has been reported since power-on or reboot.
FE Fail Cnt	FE Failure Count – Number of times a far-end group failure has been reported since power-on or reboot.
<i>Common:</i>	
ICP Viol	IMA Control Protocol (ICP) Violations – A count of ICP cell violations (errored, invalid, or missing), except during seconds when an SES or UAS condition is reported.
OIF Anom	The number of Out of IMA Frame (OIF) anomalies. An OIF anomaly is defined as leaving the IMA Sync state.
<i>Near End:</i>	
SES	Severely Errored Seconds – Number of one-second intervals containing 30% or greater of the ICP cells counted as ICP violations or more than one link defect (LOS, OOF/LOF, AIS, or LCD), LIF, or LODS defects, except during NE UAS conditions.
UAS	Unavailable Seconds – Number of one-second intervals during which the near end is unavailable.
Tx Unusable Sec	The count of Transmit unusable seconds for the near end.
Rx Unusable Sec	The count of Receive unusable seconds for the near end.
Tx Link Failures	The count of Transmit link failures for the near end.
Rx Link Failures	The count of Receive link failures for the near end.
<i>Far End:</i>	
SES	Severely Errored Seconds – Number of one-second intervals containing 30% or greater of the ICP cells counted as ICP violations or more than one link defect (LOS, OOF/LOF, AIS, or LCD), LIF, or LODS defects, except during NE UAS conditions.
UAS	Unavailable Seconds – Number of one-second intervals that the far end is unavailable.
Tx Unusable Sec	The count of Transmit unusable seconds for the far end.
Rx Unusable Sec	The count of Receive unusable seconds for the far end.
Tx Link Failures	The count of Transmit link failures for the far end.
Rx Link Failures	The count of Receive link failures for the far end.

6. Click on Refresh to view the latest information.

Status - Port Rates

Use the Port Rates screen to check the status and rates of the DSL ports.

Select *Status > Status > Port Rates*. The Status - Port Rates screen appears.

Select a slot from the drop-down list to determine which line card's ports are displayed. The screen is updated every 15 seconds.

Field	Description
Port	Port number.
Upstream	The status of the port, or the rate (in bits per second) of upstream traffic.
Downstream	The status of the port, or the rate (in bits per second) of downstream traffic.

Status - SHDSL Performance

Use the SHDSL Performance screen to obtain error and cell counts for a SHDSL port.

To view SHDSL performance information:

1. Select *Status > Performance > SHDSL*. The Status – SHDSL Performance screen appears.
2. Select a slot from the Slot drop-down list.
3. Select a port from the Port drop-down list.

The following fields are displayed:

Field	Description
<i>SHDSL Layer Performance – Near End and Far End</i>	
Code Violation (CV)	Whether an alarm was sent due to CV failures since the last reset.
Errored Second (ES)	Whether an alarm was sent due to Errored Seconds since the last reset.
Severely Errored Second (SES)	Whether an alarm was sent due to Severely Errored Seconds since the last reset.
LOSW Second (LOSWS)	Whether an alarm was sent due to Loss of Synchronization Word failures since the last reset.
Unavailable Second (UAS)	Whether an alarm was sent due to Unavailable Seconds since the last reset.
SNR Margin Defect	Whether an alarm was sent because the SNR margin has fallen below the threshold since the last reset.
Current Loop Attenuation	The current loop attenuation in dB.

Protocol Initialization Failure	Whether an alarm was sent due to Protocol Initialization failures since the last reset.
No Neighbor Present	Whether an alarm was sent due to an endpoint failure during initialization because no activation sequence was detected from the endpoint.
DC Continuity Fault	Whether an alarm was sent due to DC continuity faults since the last reset.
<i>ATM PVC Performance</i>	
Cells Sent	The number of cells sent on this PVC since the last reset.
Cells Received	The number of cells received on this PVC since the last reset.

4. Click on Refresh to display the latest information.

Status - SHDSL Statistics

Use the SHDSL Statistics screen to obtain error statistics by SHDSL port.

To display statistics:

1. Select *Status > Statistics > SHDSL*. The Status - SHDSL Statistics screen appears.
2. Select a slot from the drop-down list.
3. Select a port from the drop-down list.
4. Select an interval type:
 - 15 Minutes – For the last 15-minute interval
 - 30 Minutes – For the last two 15-minute intervals
 - 1 Hour – For the last four 15-minute intervals
 - 96 Intervals – For the last day's 15-minute intervals
 - 1 Day Total – For the total of the last 96 15-minute intervals

The following information is displayed for the near end and far end:

Field	Description
ES	The number of Errored Seconds.
SES	The number of Severely Errored Seconds.
LOSW	The number of Loss of Synchronization Word seconds.
UAS	The number of Unavailable Seconds.

5. Click on Refresh to display the latest information.

Status - Syslog

Use the Syslog screen to view messages sent to the system log.

Select *Status > Status > Syslog*. The Status - Syslog screen appears.

Entries in the system log have the following format:

Field	Description
Priority	Specifies the message type: Emergency – System is unusable Alert – Action must be taken immediately Critical – Critical conditions Error – Error conditions Warning – Warning conditions Notice – Normal, but significant condition Informational – Informational messages Debug – Debug-level messages The types of messages that are sent to syslog may be limited by Syslog Severity Threshold on the Configuration – Syslog screen.
Date and Time	The month, day, and time the message was issued.
Message	Log messages always begin with the IP address of the issuing unit.

Click on Clear Syslog to empty the table.

Status - System Alarms

Use the System Alarms screen to obtain a quick visual status of the system.

Select *Status > Status > System Alarms*. The Status - System Alarms screen appears.

PARADYNE SCP X

Status - System Alarms ?

Note: This screen is updated once per minute

Card Status column colors:
OK Critical Major Minor

System Slot Alarms:

Card Type:	Firmware Revision:	Card Status:	Action:
Slot A (SCP)	86914607	Major	Show Restart
Slot B (SCP)	86914515	Major	Show Restart
Slot 1 (Empty)	N/A	Unavailable	Restart
Slot 2 (Reach)	86914515	No Alarms	Show Restart
Slot 3 (ADSL)	86914607	No Alarms	Show Restart
Slot 4 (Empty)	N/A	Unavailable	Restart
Slot 5 (Empty)	N/A	Unavailable	Restart
Slot 6 (Empty)	N/A	Unavailable	Restart
Slot 7 (Empty)	N/A	Unavailable	Restart
Slot 8 (Empty)	N/A	Unavailable	Restart
Slot 9 (Empty)	N/A	Unavailable	Restart
Slot 10 (Empty)	N/A	Unavailable	Restart
Slot 11 (Empty)	N/A	Unavailable	Restart

For each slot, Firmware Revision level and Card Status are displayed. The Alarms button is activated for slots bearing a supported line card or SCP card. Click on the Show buttons to obtain detailed information about alarms received.

If the operator has Superuser authority, a Restart button is displayed for each slot. This resets the card in the slot even in the case that the SCP card is unaware of the card and declares the slot empty.

Status – Alarms (Detail)

The Status – Alarms detail screen appears when one of the Show buttons is clicked on in the Status – System Alarms screen.

Alarm status is color coded:



- **OK** – If there is no alarm, text is green on a white background.
- **Minor** – For minor alarms, text is italicized on a yellow background
- **Major** – For major alarms, text is underlined on a red background
- **Critical** – For critical alarms, text is italicized and underlined on an orange background

For line cards, alarm status is shown for each port, where P1 is Port 1, P24 is Port 24, and so on. For example, in the following case a Loop Attenuation alarm has been reported on Port 2. It is classified as a minor alarm.

Loop Attenuation **P1** **P2**

Status - Unknown Cell Log

Use the Unknown Cell Log screen to display a list of Unknown Cell errors by port.

To display the unknown cell log:

1. Select *Status* > *Status* > *Unknown Cell Log*. The Status - Unknown Cell Log screen appears.
2. Select a slot from the Slot drop-down list.
3. Select a port from the Port drop-down list.

The following information is displayed:

Field	Description
Date and Time	Shows when the error was encountered.
Error VPI	The VPI of the failed cell.
Error VCI	The VCI of the failed cell.

4. Click on Refresh to display the latest information.

Port Mapping Table



Table A-1, [Port Card and SCP Card Mapping](#) shows the VPI/VCI default values assigned to circuits on the port card and the SCP card for user data (UBR) service. There are no default values for user voice (rt-VBR) service.

The table reflects 48 possible ports. The actual number of ports depends on the line card used.

A DSL port's data VPI/VCI is always 0,35.

Default VC mappings to the SCP card for data service may be determined so:

- VPI is 2 for ports 1–24 and 3 for ports 25–48
- VCI is (Slot * 24) + (Port number up to 24) + 7

Port numbers 25 through 48 are reduced (by 24) to 1 through 24, respectively, before VCI is calculated. So the VCI for Slot 3, Port 1 is the same as the VCI for Slot 3, Port 25:

$$\text{Port 1: } 3 * 24 + 1 + 7 = 80$$

$$\text{Port 25: } 3 * 24 + 25 - 24 + 7 = 80$$

Table A-1. Port Card and SCP Card Mapping (1 of 3)

Slot and Port (1–24)	Uplink	Slot and Port (25–48)	Uplink
Slot 1 Port 1	2,32	Slot 1 Port 25	3,32
Slot 1 Port 12	2,43	Slot 1 Port 36	3,43
Slot 1 Port 16	2,47	Slot 1 Port 40	3,47
Slot 1 Port 24	2,55	Slot 1 Port 48	3,55
Slot 2 Port 1	2,56	Slot 2 Port 25	3,56
Slot 2 Port 12	2,67	Slot 2 Port 36	3,67
Slot 2 Port 16	2,71	Slot 2 Port 40	3,71
Slot 2 Port 24	2,79	Slot 2 Port 48	3,79
Slot 3 Port 1	2,80	Slot 3 Port 25	3,80

Table A-1. Port Card and SCP Card Mapping (2 of 3)

Slot and Port (1–24)	Uplink	Slot and Port (25–48)	Uplink
Slot 3 Port 12	2,91	Slot 3 Port 36	3,91
Slot 3 Port 16	2,95	Slot 3 Port 40	3,95
Slot 3 Port 24	2,103	Slot 3 Port 48	3,103
Slot 4 Port 1	2,104	Slot 4 Port 25	3,104
Slot 4 Port 12	2,115	Slot 4 Port 36	3,115
Slot 4 Port 16	2,119	Slot 4 Port 40	3,119
Slot 4 Port 24	2,127	Slot 4 Port 48	3,127
Slot 5 Port 1	2,128	Slot 5 Port 25	3,128
Slot 5 Port 12	2,139	Slot 5 Port 36	3,139
Slot 5 Port 16	2,143	Slot 5 Port 40	3,143
Slot 5 Port 24	2,151	Slot 5 Port 48	3,151
Slot 6 Port 1	2,152	Slot 6 Port 25	3,152
Slot 6 Port 12	2,163	Slot 6 Port 36	3,163
Slot 6 Port 16	2,167	Slot 6 Port 40	3,167
Slot 6 Port 24	2,175	Slot 6 Port 48	3,175
Slot 7 Port 1	2,176	Slot 7 Port 25	3,176
Slot 7 Port 12	2,187	Slot 7 Port 36	3,187
Slot 7 Port 16	2,191	Slot 7 Port 40	3,191
Slot 7 Port 24	2,199	Slot 7 Port 48	3,199
Slot 8 Port 1	2,200	Slot 8 Port 25	3,200
Slot 8 Port 12	2,211	Slot 8 Port 36	3,211
Slot 8 Port 16	2,215	Slot 8 Port 40	3,215
Slot 8 Port 24	2,223	Slot 8 Port 48	3,223
Slot 9 Port 1	2,224	Slot 9 Port 25	3,224
Slot 9 Port 12	2,235	Slot 9 Port 36	3,235
Slot 9 Port 16	2,239	Slot 9 Port 40	3,239
Slot 9 Port 24	2,247	Slot 9 Port 48	3,247
Slot 10 Port 1	2,248	Slot 10 Port 25	3,248
Slot 10 Port 12	2,259	Slot 10 Port 36	3,259
Slot 10 Port 16	2,263	Slot 10 Port 40	3,263
Slot 10 Port 24	2,271	Slot 10 Port 48	3,271
Slot 11 Port 1	2,272	Slot 11 Port 25	3,272

Table A-1. Port Card and SCP Card Mapping (3 of 3)

Slot and Port (1–24)	Uplink	Slot and Port (25–48)	Uplink
Slot 11 Port 12	2,283	Slot 11 Port 36	3,283
Slot 11 Port 16	2,287	Slot 11 Port 40	3,287
Slot 11 Port 24	2,295	Slot 11 Port 48	3,295
Slot 12 Port 1	2,296	Slot 12 Port 25	3,296
Slot 12 Port 12	2,307	Slot 12 Port 36	3,307
Slot 12 Port 16	2,311	Slot 12 Port 40	3,311
Slot 12 Port 24	2,319	Slot 12 Port 48	3,319
Slot 13 Port 1	2,320	Slot 13 Port 25	3,320
Slot 13 Port 12	2,331	Slot 13 Port 36	3,331
Slot 13 Port 16	2,335	Slot 13 Port 40	3,335
Slot 13 Port 24	2,343	Slot 13 Port 48	3,343
Slot 14 Port 1	2,344	Slot 14 Port 25	3,344
Slot 14 Port 12	2,355	Slot 14 Port 36	3,355
Slot 14 Port 16	2,359	Slot 14 Port 40	3,359
Slot 14 Port 24	2,367	Slot 14 Port 48	3,367
Slot 15 Port 1	2,368	Slot 15 Port 25	3,368
Slot 15 Port 12	2,379	Slot 15 Port 36	3,379
Slot 15 Port 16	2,383	Slot 15 Port 40	3,383
Slot 15 Port 24	2,391	Slot 15 Port 48	3,391
Slot 16 Port 1	2,392	Slot 16 Port 25	3,392
Slot 16 Port 12	2,403	Slot 16 Port 36	3,403
Slot 16 Port 16	2,407	Slot 16 Port 40	3,407
Slot 16 Port 24	2,415	Slot 16 Port 48	3,415
Slot 17 Port 1	2,416	Slot 17 Port 25	3,416
Slot 17 Port 12	2,427	Slot 17 Port 36	3,427
Slot 17 Port 16	2,431	Slot 17 Port 40	3,431
Slot 17 Port 24	2,439	Slot 17 Port 48	3,439
Slot 18 Port 1	2,440	Slot 18 Port 25	3,440
Slot 18 Port 12	2,451	Slot 18 Port 36	3,451
Slot 18 Port 16	2,455	Slot 18 Port 40	3,455
Slot 18 Port 24	2,463	Slot 18 Port 48	3,463

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